

What is claimed is:

1. Preparing a plurality of plates which will define an interior tread pattern within a tire mold, said plates having an inner predetermined radius and an outer predetermined radius, comprising the steps of

5 a) machining at least one discrete region to a shallow depth on at least one side of the plates from its inner radius part way toward its outer radius,

b) stacking and securing the plates together and thereby producing first gaps at the discrete regions between the surfaces of adjacent plates, the

10 gaps extending outward from the inner radius,

c) forming second gaps at a depth and width greater than the first gaps and in a predetermined alignment to the first gaps in the outer full thickness region of the plates, to form vent passages between adjacent plates in a depth range of approximately 0.060 inches (15.24 mm) and extending from the first

15 gaps to the outer radius of the plates, and thus venting outward through the stacked plates to the back of the mold.

2. The method defined in claim 1, wherein during step (a) the discrete regions are machined to a depth in the order of 0.002 to 0.008 inches (5.08 to

20 22.86 mm).

3. The method defined in claim 1, wherein the majority of the plates are typically about 1.000 inch (2.54 mm) or less in thickness.

25 4. The method defined in claim 1, wherein during step (a), the first gaps are machined in the range of approximately 0.004 inches (10.16 mm) in depth.

30 5. The method defined in claim 4, wherein during step (a), the first gaps extend from the inner radius toward the outer radius for approximately 1.00 inch or less.

6. The method defined in claim 1 wherein during step (b), the plates are stacked one upon the other over alignment pins.

7. The method defined in claim 6 wherein during the step (b), the alignment pins have threaded ends receiving threaded flathead fasteners when the full complement of plates is assembled.

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8. The method defined in claims 1 or 2, wherein the plates are stacked and joined as two separate cooperative parts of a clam-shell mold.

9. The method defined in claims 1 or 2, wherein the plates are stacked and
10 joined
as discrete parts of a segmented mold.

10. The method defined in claim 1 wherein the interior radius edges of the assembled plates are engraved with the pattern of a tire tread to be molded on
15 a tire placed within the mold.

11. In a mold for the formation of tread patterns on tires, a venting construction for passing gases to the mold exterior as the mold is filled with heated and unvulcanized rubber, said mold comprising
20 a plurality of mold sections each including a plurality of arcuate or annular plate-like parts assembled and secured face to face in a stack, the parts having substantially common inner and outer radii, the parts having a first set of machined regions in a minor portion of their faces defining a first set of gaps between adjacent plates of the assembled plate-like parts extending outward from
25 the inner radius,

the plurality of plate-like parts also having a second set of machined regions adjacent to and opening into the radially outward edges of the assembled plate-like parts defining radially extending vent passages between adjacent plates in the range of approximately 0.060 inches (15.24 mm) and extending from the
30 first gaps to the outer radius of the plates, thereby providing outward venting of the stacked plates to the back of the mold, and

the radially inward edges of the assembled plate-like parts forming a surface having at least a portion of a tire tread mold formed thereon.

12. A mold as defined in claim 11, wherein the first set of machined regions has a depth of substantially 0.004 inch (10.16 mm).

13. A mold as defined in claim 11, wherein the depth of the first set of 5 machined regions being in the range of approximately 0.002 to 0.008 inches (5.08 to 22.86 mm).

14. A tire mold comprising:

10 arc and extending over at least a portion of a circumference of the tire mold; and
a plurality of circumferentially extending gaps formed along radially inner portions of the abutting plates and dimensioned to provide venting of air during molding while precluding rubber penetration therein under molding pressures and temperatures.

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15. The tire mold of claim 14 wherein radially inner portions of the plates are machined to form a tread configuration.

20 16. The tire mold of claim 14 wherein the plates are annuli that extend about the entire circumference of the mold.

17. The tire mold of claim 14 further comprising at least one pin interconnecting the plates in side-by-side relation.

25 18. The tire mold of claim 14 wherein a majority of the plates have substantially the same thickness.

19. The tire mold of claim 14 wherein the plurality of plates are divided into first and second portions across the tread arc to form a clamshell.

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20. The tire mold of claim 14 wherein the plurality of plates are divided in arcuate segments.